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Environmental Management Practices

Spring semester, 2021-2022

The course is proposed for students in the academic year 2020-2021 as an optional one.

Cooordinator	Utkina Kateryna
Credits	3 ECTS (optional course), 24 in-class hours
Lecturers	Kateryna Utkina (Karazin Institute of Environmental Sciences, V.N. Karazin Kharkiv National University, Ukraine)
Level	PhD students
Host institution	Karazin Institute of Environmental Sciences, V.N. Karazin Kharkiv National University, Ukraine
Course duration	February - May

Summary

This 3 ECTS course aims to development of theoretical and practical knowledge about environmental management practices and their application for various industries and companies. It provide students with information about international and UA national legislation, modern approaches and tools. The course contains individual and group assignments aimed at developing practical skills on search and selection of best environmental management practice for each specific case.

Target student audiences

PhD students, study program – Constructive Geography and Sustainable Use of Natural Resources; Earth Sciences (Code No. 103)

Prerequisites

Required courses (or equivalents):

- Phylosophy of Science;
- Science Methodology;
- Environmental Policy and Management;
- Natural Resource Science.

Aims and objectives

The main course objective is to develop basic knowledge on the patterns of functioning of various advanced environmental management practices and to develop skills on seach, selection and applying of modern environmental management practices for different cases.

The course is aimed at the following: to introduce existing approaches and ways for development of new practices (large-scale, medium-scale and small-scale ones as well as technical, organizational and institutional ones) for various industries and specific cases; to help PhD students to seach and select optimal practices for different cases taking into account specific conditions; to introduce key stadards (ISO9001 and ISO14000) into everyday activity.

General learning outcomes:

By the end of the course, successful students will have:

Knowledge and understanding:

- General scientific (philosophical) competencies aimed at forming a systematic scientific worldview, professional ethics and general cultural outlook
- Ability to use methods and principles of modern scientific knowledge in their professional activities
- Skills of academic communication in a foreign language, including the presentation of research results
- Ability to generate new ideas and form new knowledge and professional practice, to solve integrated problems in the field of Earth sciences
- Ability to develop, implement and manage research projects in the field of Earth sciences
- Ability to work in an international level
- Ability to justify the choice of methods and places of observation of the environment
- Ability to develop science-based recommendations to support management decisions in conservation and restoration activities

Skills:

- To develop scientifically sound recommendations to support management decisions in business
- To perform environmental project management

Overview of sessions and teaching methods

The course combines interactive group and individual self-reflective methods of teaching and learning.

The course includes in-class work (lectures, practical works and seminars) and independent work.

There are two sections:

Section 1 – European legislation.

Topic 1. Management of transboundary water bodies.

Topic 2. Transboundary air pollution.

Topic 3. Biosafety and international practices for environemtnal protection.

Topic 4. Transboundary transportation of hazardous wastes.

Section 2. Environemtnal management practices: specific cases.

Topic 5. Project writing.

Topic 6. Life cycle assessment.

Topic 7. Case studies.

Topics of practical works and seminars:

- Blue Growth and Blue Economy.
- Integrated Coastal Zone Management: case study.
- Directive on Industrial Emissions.
- European eco-network: potential and options for Ukraine.
- CITES Convention: EU, UA cases, ways for integration of EU practices into UA context.
- Waste Framework Directive.
- Life cycle analysis: case studies.
- Environemntal Managemnt Practices: case studies.

Course workload

The table below summarizes course workload distribution:

Activities	Learning outcomes	Assessment	Estimated workload (hours)
In-class activities			
Lectures	Understanding of basics, concepts, methodology and tools of application of environmental management practices for specific cases	Class participation	4
Practical works	Ability to perform seach, analysis, selection and integration of EU legislation, concepts and approaches into UA context. Ability to perform seach, analysis, selection and integration of advances environmental management practies for industries and companies. Ability to develop and write project proposals. Ability to perform life cycle assessment	Paper assignments and presentations	6
Seminars	Understanding of key topics proposed for analysis and discussion	Class participation and preparedness for assignments	14
Independent work			
Individual assignments: - Development of presentations - Writing paper assignments	Ability to find related literature and data, to interpret data, to identify factors, to perform analysis and visualization of information.	Quality of presentations and paper assignments	40

Reading and discussion of assigned papers for seminars and preparation for lectures, oral interviews and tests	Familiarity with and ability to critically and creatively discuss key concepts, tools and methods as presented in the literature	Class participation, creative and active contribution to discussion, quality of test and interviews	26
Total			*90*

Grading

The following table defines the criteria for evaluating the student's work in studying the materials of the course. As a result, the student is able to get a maximum score of 100 points. The minimum number of points required is 50 points.
In the course of studying the course a student receives points for performing various tasks.

Educational activity	Max	Min
In-class discussions during lectures	4	2
Practical work 1	8	4
Practical work 2	9	5
Practical work 3	10	5
Seminar 1	5	2
Seminar 2	6	3
Seminar 3	6	3
Seminar 4	6	3
Seminar 5	6	3
Final control	40	20
Total	100	50

At the end of the course the student will have an exam. Grading system is presented below:

Scores	Mark
90 – 100	Excellent
70-89	Good
50-69	Satisfactory
1-49	Not passed

Course schedule

Dates and time will be provided later.
The overall schedule is provided below:

Day	Time	Topic	Lecturer
Day 1	2 hours	Lecture 1	K.Utkina

Day 2	2 hours	Practical work 1	K.Utkina
Day 3	2 hours	Seminar 1	K.Utkina
Day 4	2 hours	Seminar 2 – part 1	K.Utkina
Day 5	2 hours	Seminar 2 – part 2	K.Utkina
Day 6	2 hours	Seminar 3	K.Utkina
Day 7	2 hours	Lecture 2	K.Utkina
Day 8	2 hours	Practical work 2	K.Utkina
Day 9	2 hours	Practical work 3	K.Utkina
Day 10	2 hours	Seminar 4	K.Utkina
Day 11	2 hours	Seminar 5 – part 1	K.Utkina
Day 12	2 hours	Seminar 5 – part 2	K.Utkina
Day 13	2 hours	Final test	K.Utkina

Course assignments

The course includes the following practical works and seminars:

Topic	Number of hours
Seminar 1 Blue Growth and Blue Economy	2
Practical work 1 Integrated Coastal Zone Management: case study	2
Seminar 2 Directive on Industrial Emissions	4
Seminar 3 European eco-network: potential and options for Ukraine	2
Seminar 4 CITES Convention: EU, UA cases, ways for integration of EU practices into UA context	2
Practical work 2 Waste Framework Directive; integration into UA legislation	2
Practical work 3 Life cycle analysis: case studies	2
Seminar 5 Environemntal Managemnt Practices: case studies	4

Literature

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ISO 9001, Quality management systems – Requirements.

Free Online "Basics of ISO 9001" Tutorial - http://the9000store.com/Step1-what-is-iso-9001.aspx

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ISO 14004: EMS general guidelines.

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